REMARKS

This is in response to the Office Action dated October 10, 2007. It is believed that the changes with respect to claims 3, 11 and 12 herein have addressed and resolved the formality issues raised in the Office Action with respect to these claims.

For purposes of example only, in certain example embodiments of this invention there is provided an image reading device using an array of thin film transistors (TFTs) as photodetecting elements. Generally, a property (e.g., resistance value) of the TFT varies in a short time (e.g., 15 minutes) after applying a voltage to a gate electrode of the TFT. Such variation of the resistance value in the short time raises a problem in the example case of using the TFT as a photodetecting element and using a detection signal thereof without modification. Particularly, in case of reading an original document with TFTs disposed in a matrix manner (e.g., in the case of a two-dimensional image sensor), all the TFTs are sequentially driven during a single frame period corresponding to a time taken to scan a single image of the document, so that any error in a detection signal from each TFT raises such a problem that it is not practically possible to read the image accurately.

Thus, in order to suppress the variation in resistance value in the short time, certain example embodiments of this invention are arranged so that a compensation signal (e.g., opposite polarity) is applied to the gate electrode of each of the TFTs during a period whose length is 3-30% with respect to the single frame period corresponding to the time taken to scan the single image. As a result, it is possible to suppress the variation of the resistance value of the TFT used as the photodetecting element, which variation is observed in the short time. In this manner, if it is possible to suppress the variation of the resistance value of the TFT, it is possible to reduce the

error in the detection signal of the TFT. Thus, even in the case of using detection results of plural TFTs disposed in a matrix manner, it is possible to read the image accurately.

With respect to the above, claim 1 requires that "thin film transistors are disposed in a matrix manner so as to read a document image in a single frame period . . . applies a voltage, whose polarity is opposite to average polarity of a voltage making the thin film transistor in the OFF state, to the gate electrode in an arbitrary period in a period whose length is 3-30% with respect to the single frame." JP '278 fails to disclose or suggest this subject matter.

In contrast, JP '278 uses a TFT as a switching element of an inverter in a shift register (not as a photodetecting element in reading a document image). Thus, JP '278 does not consider the problem discussed above which arises when a TFT is used as a photodetecting element for reading a document image, and also does not consider influence exerted by the variation of resistance value of TFTs in the short time. This is because the variation of resistance value of the TFT in the short time results in no problems in the case where TFTs are used as mere switching elements as in JP '278. JP '278 does not even disclose a two-dimensional image sensor. Accordingly, JP '278 also fails to disclose or suggest applying a voltage, whose polarity is opposite to average polarity of a voltage making the thin film transistor in the OFF state, to the gate electrode in an arbitrary period in a period whose length is 3-30% with respect to the single frame as required by claim 1 (the other independent claims define over JP '278 in a similar respect). There would have been no reason to have modified JP '278 to meet this feature, because JP '278's device is unrelated to the device of claim 1 for the reasons discussed above.

It is respectfully requested that all rejections be withdrawn. All claims are in condition for allowance.

Respectfully submitted,

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